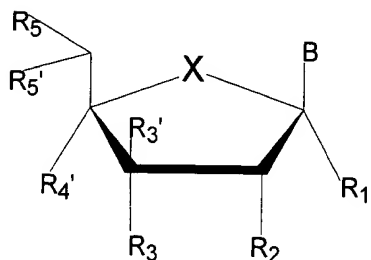


IN THE CLAIMS

Claims 1-54 (Withdrawn).

55. (Currently amended) A compound having the structure:



wherein:

B is a nucleoside base;

any alkyl portion of R₁', R₃', R₄' and R₅' is C1 to C10, linear, branched, saturated or unsaturated;

any aryl portion of R₁', R₃', R₄' and R₅' is a phenyl, polycyclic ring or heterocycle;

R₂ is selected from the group consisting of H, OH, alkoxy, aralkoxy and aryloxy; and
and X is O;

(I) where R₃ and R₅ are independently selected from the group consisting of OH, OCEPA and a hydroxyl blocking group:

(A) where:

R₁' is selected from the group consisting of N₃, NO₂, CF₃, alkyl, substituted alkyl, aralkyl, substituted aralkyl, aryl, and substituted aryl, where the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of NO₂, N₃, CF₃, SH, SR, COOH, COOR, SO₃H, SO₃R, F, Cl, Br, and I, where R is selected from lower alkyl, aralkyl and aryl; and

R₃', R₄' and R₅' are all H; and

with the proviso that where R₂ is H and R₃ is OH, then R₁' is not substituted alkyl;

(B) where:

R₃' is selected from the group consisting of ~~CN, N₃, NO₂, CF₃~~, substituted alkyl, aralkyl, substituted aralkyl, aryl, and substituted aryl, where the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of CN, N₃, CF₃, NH₂, NR₂, OR, SH, SR, COOH, COOR, SO₃R, F, Cl, Br, and I, where R is selected from lower alkyl, aralkyl and aryl; and

R₁', R₄' and R₅' are H;

(II) where:

one of R₃ and R₅ is an internucleotide linkage and the other is selected from the group of OH, an internucleotide linkage and a hydroxyl blocking group;

R₁' is H; and

two of R₃', R₄' and R₅' are H and the other is modified as set forth below:

(A) R₄' is selected from the group consisting of substituted alkyl, substituted aralkyl, aryl, and substituted aryl, ~~a highly electronegative radical, CF₃ and NO₂~~, where R₄' does not comprise a label; and

the substituted portion of the substituted alkyl and substituted aralkyl is other than OH, CHO, SH, NH₂, COOH and NHC(O)CF₃;

(B) when R₅ is an internucleotide linkage;

R₅' is selected from the group consisting of substituted alkyl, aralkyl, substituted aralkyl, aryl, and substituted aryl; and

the substituted portion of the substituted alkyl is other than NH₂ and epoxyethyl; and

(C) R₃' is selected from the group consisting of substituted alkyl, aralkyl, substituted

aralkyl, aryl, and substituted aryl; and
the substituted portion of the substituted alkyl is other than OH;

56. (Original) The compound of claim 55 which satisfies grouping I(A).

57. (Original) An oligonucleotide containing the nucleoside of claim 56.

58. (Original) The compound of claim 55 which satisfies grouping I(B).

59. (Canceled)

60. (Original) The compound of claim 55 which satisfies grouping II(A).

61. (Original) An oligonucleotide containing the nucleoside of claim 60.

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6004. 62. (Original) The compound of claim 60, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of NH_2 , NHR' , $\text{NR}'\text{R}''$ and $^+\text{NR}'\text{R}''\text{R}'''$ where R' , R'' and R''' are independently selected from the group consisting of lower alkyl and lower alkylcarbonyl.

63. (Original) The compound of claim 60, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of CN , NO_2 , N_3 , halogen, OR' , SH and SR' where R' is selected from the group consisting of lower alkyl and lower alkylcarbonyl.

64. (Currently amended) The compound of claim 60, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of COOH , COOR' and $\text{CONR}'\text{R}''$ where R' and R'' are ~~independently selected from the group consisting of lower alkyl, aralkyl and aryl.~~

65. (Original) The compound of claim 60, wherein the substituted alkyl, substituted aralkyl and substituted aryl independently comprise a linker which is attached to at least one of a functional moiety, an artificial nuclease, a cross-linking reagent, an intercalator, and a reporter molecule.

66. (Original) The compound of claim 55 which satisfies grouping II(B).

67. (Original) The oligonucleotide of claim 66, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of NHR' , $\text{NR}'\text{R}''$ and $^+\text{NR}'\text{R}''\text{R}'''$ where R' , R'' and R''' are independently selected from the group consisting of lower alkyl and lower alkylcarbonyl.

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68. (Original) The oligonucleotide of claim 66, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of CN, NO₂, N₃, halogen and SR' where R' is selected from the group consisting of lower alkyl and lower alkylcarbonyl.

69. (Canceled)

70. (Original) The compound of claim 55 which satisfies grouping II(C).

71. (Original) The oligonucleotide of claim 70, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of NHR' , $\text{NR}'\text{R}''$ and $^+\text{NR}'\text{R}''\text{R}'''$ where R' , R'' and R''' are independently selected from the group consisting of lower alkyl and lower alkylcarbonyl.

72. (Currently amended) The oligonucleotide of claim 70, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of CN, NO₂, N₃, halogen, OH, OR', SH and SR', where R' is ~~selected from the group~~

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~~consisting of lower alkyl and lower alkylcarbonyl.~~

73. (Original) The oligonucleotide of claim 70, wherein the substituted portion of at least one of the substituted alkyl, substituted aralkyl and substituted aryl is selected from the group consisting of COOH, COOR' and CONR'R", where R' and R" are independently selected from the group consisting of lower alkyl, aralkyl and aryl.

74. (Original) The oligonucleotide of claim 70, wherein the substituted alkyl, substituted aralkyl and substituted aryl independently comprise a linker which is attached to a least one of a functional moiety, an artificial nuclease, a cross-linking reagent, an intercalator, and a reporter molecule.